

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ERIK L. EIDT and ALAN W. LILLICH

Appeal No. 96-2587
Application No. 08/035,750¹

ON BRIEF

Before THOMAS, KRASS and CARMICHAEL, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 17, 19, 21, 23 through 25, 29 through 34, 36 through 47, 49, 51, 53 through 55 and 58 through 61. Claims

¹ Application for patent filed March 23, 1993.

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18, 20, 22, 26 through 28, 35, 48, 50, 52, 56 and 57 have been indicated by the examiner as being directed to allowable subject matter.

The invention is directed to relocatable object code format and a method for loading the relocatable object code format into a computer system. The new format for the loader section of a relocatable object code file and method based on such format for loading a relocatable object code file into a computer system memory for execution saves space occupied by relocation table entries since such entries do not need to contain a pointer to the particular information item whose updating is governed by such entry.

Representative independent claim 36 is reproduced as follows:

36. An information storage medium carrying a relocatable file for loading into a computer system memory, said file having a plurality of information items to be loaded into said memory, certain ones of said information items having a respective first address field containing a relocatable address, said file further having a plurality of loading instructions, including a first loading instruction which specifies updating of the first address field of n consecutive ones of said information items, n being specified in said first loading instruction.

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The examiner relies on the following references:

Van Dyke et al. (Van Dyke)	5,175,856	Dec. 29, 1992
Hastings	5,193,180	Mar. 9, 1993

Claims 1, 10 through 15, 36 and 41 through 45 stand rejected under 35 U.S.C. § 102(a) as anticipated by Hastings. Claims 2 through 9, 16, 17, 19, 21, 23 through 25, 29 through 34, 37 through 40, 46, 47, 51, 53 through 55 and 58 through 61 stand rejected under 35 U.S.C. § 103 as unpatentable over Hastings in view of Van Dyke.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

We reverse.

With regard to the rejection based on 35 U.S.C. § 102(a), anticipation requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Each of independent claims 1 and 36 calls for "loading." Claim 1 recites a method "for loading a relocatable file into a computer system memory" and claim 36 recites a "relocatable file for loading into a computer system memory." Hastings' invention is not directed to loading, as such, but, rather, to a code expansion wherein additional instructions are inserted into an existing relocatable object file of a computer program. Of course, it is true that, even in Hastings, there must be some loading of the relocatable file into the computer system memory. However, the "loading" by the instant claimed invention is quite different. In the instant claimed invention, a new format for the loader section of a relocatable object code file is employed. This is brought out in the claims by the language, "updating the first address field of n consecutive ones of said information items in response to said one of said loading instructions, n being specified in said one of said loading instructions," in claim 1, and by the language, "including a first loading instruction which specifies updating of the first address field of n consecutive ones of said information items, n being specified in said first loading instruction," in claim 36.

There is no indication in Hastings that the format of the relocatable object code disclosed therein is anything but conventional. As appellants state, at page 12 of the principal brief, "Hastings' method *begins* with a relocatable object code file and *ends* with a relocatable object code file. The *format* of the relocatable object code file on which Hastings' method operates, both before and after the modifications, is entirely conventional." Hastings' method of code expansion ends before the loading process therein begins. In any event, we do not find, in Hastings, a loading instruction which "specifies updating of the first address field of n consecutive ones of said information items, n being specified in said loading instruction," as claimed.

The examiner points to a loading instruction "BBQ 6" and "BBQ 16" [answer-page 3] in Hastings. We presume that the examiner refers to instruction "BEQ," as shown, for example, in Hastings' Figure 3. We agree with appellants, at page 15 of the principal brief, that the BEQ instruction is a computer instruction and not a loading instruction. The BEQ instruction is, itself, updated by the Hastings method and it

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does not specify what updating is to be performed on any address fields in the file, as claimed.

Further, we agree with appellants, at page 16 of the principal brief, that if the examiner is reading "n," as claimed, as "6" in Hastings, the examiner is in error because the "6" specified in Hastings' BEQ 6 instruction does not relate to updating first address fields of 6 consecutive information items as would be required by the claims. As pointed out by appellants, at page 16 of the principal brief, the "only address field which Hastings updates is the two-byte offset field in the BEQ instruction, which contains '6' before expansion and will contain '16' after expansion. Such two-byte offset field is the address field of only one information item..."

Accordingly, for at least these reasons, we will not sustain the rejection of independent claims 1 and 36 (or their dependent claims 10-15 and 41-45) under 35 U.S.C. § 102(a) as anticipated by Hastings.

We now turn to independent claims 16 and 46, which were rejected, along with various dependent claims, under 35 U.S.C. § 103 as unpatentable over Hastings in view of Van Dyke.

We also will not sustain the rejection under 35 U.S.C. § 103.

While we do not agree with appellants' argument that Hastings and Van Dyke constitute non-analogous art with regard to the instant claimed invention,² we do agree that these references, either individually, or in combination, would not have made the instant claimed subject matter obvious, within the meaning of 35 U.S.C. § 103.

Independent claim 16 specifies an updatable first pointer in conjunction with each repetition of a retrieving step and an updatable second pointer in conjunction with each performance of one of the loading operations. Hastings does indicate an updating operation wherein an address field of a relocation table is updated. But, as pointed out by appellants [principal brief-page 33], "this updating is not performed in the context of loading the relocatable file into memory for execution," as required by instant claim 16.

² We think that those familiar with relocatable object code and loading same into a computer system memory would have looked to prior art such as Hastings and Van Dyke, which both deal with relocatable object code, as relevant teachings and clearly pertinent to the instant claimed invention.

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Hastings' updating is performed as part of the code expansion method and is not related to the loading operation required by instant claim 16.

Van Dyke is of no help in providing for the deficiencies of Hastings because Van Dyke also is not concerned with loading. The examiner cites Van Dyke for the use of "different instructions (programming languages)" being "merged for relocating (i.e. reloading) his object files" [answer-page 4]. The examiner then concludes that it would have been obvious to use Van Dyke's different instructions (programming languages) as different types of loading instructions in Hastings" [answer-page 4]. It is difficult to understand how or why the examiner would combine the code optimization technique of Van Dyke, which occurs as part of the compiler step, with the code expansion technique of Hastings to somehow arrive at the method of loading a relocatable file, as specified in instant claim 16, wherein first and second pointers are updated in conjunction with the repetition of a step of retrieving and in conjunction with the performance of a loading operation of an information item, respectively.

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The examiner has failed to take into account, each and every specific claim limitation of claim 16 and, as such, has not established a prima facie case of obviousness. Accordingly, we will not sustain the rejection of claim 16 or of its dependent claims 17, 19, 21, 23-25 and 29-34 under 35 U.S.C. § 103. We also will not sustain the rejection of dependent claims 2-9 and 37-40 under 35 U.S.C. § 103 because we do not find Van Dyke to supply the deficiencies noted supra with regard to the rejection of claims 1 and 36 under 35 U.S.C. § 102(a).

We turn, finally, to the rejection of claim 46 and its dependent claims 47, 49, 51, 53-55 and 58-61 under 35 U.S.C. § 103 over Hastings in view of Van Dyke. We will not sustain the rejection of these claims under 35 U.S.C. § 103.

Independent claim 46 requires, inter alia, "said at least one of said information items *not* being designated in said loading instructions in said first class of loading instructions..." [emphasis added]. By not designating, in the loading instruction, a particular information item on which a loading operation is to be performed, the length of the relocation table necessary in conventional techniques is

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substantially shortened. As explained by appellants, at page 42 of the principal brief, this limitation "distinguishes over the conventional relocation table entries used by Hastings and Van Dyke." Appellants appear to be correct in their assessment and we have no counter argument by the examiner. Accordingly, the rejection of claim 46, and of the claims dependent therefrom, under 35 U.S.C. § 103, is reversed.

The examiner's decision rejecting claims 1, 10 through 15, 36 and 41 through 45 under 35 U.S.C. § 102(a) and rejecting claims 2 through 9, 16, 17, 19, 21, 23 through 25, 29 through 34, 37 through 40, 46, 47, 49, 51, 53 through 55 and 58 through 61 under 35 U.S.C. § 103 is reversed.

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REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ERROL A. KRASS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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JAMES T. CARMICHAEL)	
Administrative Patent Judge)	

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Warren S. Wolfeld
Fliesler, Dubb, Meyer & Lovejoy
Four Embarcadero Center, Suite 400
San Francisco, CA 94111-4156